

Practice

1.5

Name _____

#8
2-32
even

In Exercises 1–12, evaluate the expression for $x = 2$.

- | | | |
|------------------------|--------------------------|------------------------------|
| 1. $x + 2$ | 2. $42 \div x$ | 3. $3x$ |
| 4. $x \cdot 4x$ | 5. $4x^2 - 2$ | 6. $3x^2 \cdot 2x$ |
| 7. $(x - 1) \cdot x^2$ | 8. $3(2 - x)$ | 9. $5 \cdot x^2 - 2 \cdot x$ |
| 10. $(x + 3)^2$ | 11. $(7 + x - 1) \div x$ | 12. $(7 - x)^2$ |

In Exercises 13–24, evaluate the expression for $a = 2$ and $b = 5$.

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|-----------------|----------------------|-----------------------------|------------------------------|
| 13. $b - a$ | 14. $a^2 \cdot b$ | 15. $3a + 2b$ | 16. $(12a - b)$ |
| 17. $(a + b)^2$ | 18. $(2b - a)^2$ | 19. $(5 + a)^2 + b$ | 20. $b(9 + a)$ |
| 21. $3b + 2a^2$ | 22. $(4b) \div (2a)$ | 23. $(2a + b) \div (b - a)$ | 24. $(a + b^2) \div (b - a)$ |

In Exercises 25–28, evaluate the expression for $x = 4$, $y = 8$, and $z = 9$.

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|------------------------------|--------------------|
| 25. $x + y - z$ | 26. $y + (z - x)$ |
| 27. $x \cdot z \div (y - x)$ | 28. $y(z - x) + z$ |

In Exercises 29–32, match the algebraic expression with its verbal description.

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|------------|---------------|---------|------------|
| a. $x + 5$ | b. $y \div 5$ | c. $5a$ | d. $b - 5$ |
|------------|---------------|---------|------------|
29. The product of a number and 5
30. The difference of a number and 5
31. The sum of a number and 5
32. The quotient of a number and 5
33. If the expression $3x + 9$ has a value of 15, what is the value of x ?
34. If the expression $15y - 4$ has a value of 41, what is the value of y ?
35. The cost of admittance to an amusement park is \$8.00 per adult and \$6.00 per child under the age of 12. Let a represent the number of adults and let c represent the number of children.
- a. Write an expression for the total amount of money a group of both adults and children will cost.
- b. If there are 5 adults and 12 children in one group, how much does it cost the group for admittance?
36. You and two friends are in a canoe on a large lake. If the three of you together can paddle at a speed of 4 mph,
- a. how far could you travel in 75 minutes?
- b. how many minutes would it take to travel 10 miles?
37. The area of a large rectangular field is 12,750 square yards. The width is 150 feet.
- a. Find the length of the field in yards.
- b. What is the length of the field in feet?

Practice

Find the value of each expression if $x = 3$. The first two are done for you.

8
1-10

1. $x + 11$

$3 + 11 = 14$

2. $3x - 5$

$3(3) - 5 = 9 - 5 = 4$

3. $174 + x$

4. $87 - x$

5. $5x - 4$

6. $\frac{27}{(x + 6)}$

Complete each table for the given values.

7.	If y is...	1	5	8	12
	then $y + 10$ is...	_____	_____	_____	_____

8.	If z is...	2	7	10	20
	then $3z$ is...	_____	_____	_____	_____

9.	If b is...	10	15	17	25
	then $b - 5$ is...	_____	_____	_____	_____

10.	If x is...	1	2	3	4
	then $4x - 3$ is...	_____	_____	_____	_____

Apply the Idea

11. A mail-order company adds \$2 to the price of an order for handling.

a. Write an expression that represents the total cost of an order in which the price of the order is c . _____

b. Find the total cost of the order when $c = 14$. _____

Write About It

12. Explain how to evaluate the expression $75 - 6z$ for $z = 8$.
